CLAIMS

I claim:

1. A Collection Processing System process for performing symbolic task operations on collections, to be performed on or with the aid of a computer, comprising the following steps:

(a) receiving a collection symbolic job request from a request originator to perform a collection processing operation on a collection reference expression,

(b) performing said collection processing operation on said collection reference using a collection processing system means, and

(c) returning results of said collection processing operation to said request originator,

wherein a collection symbolic job request is comprised of a symbolic task name and a collection reference expression, and wherein a collection is comprised of a collection specifier, including a collection type indicator, and optional collection contents,

thereby solving the Collection Processing System Problem and improving the productivity of people that perform complex computational tasks on large sets of collections.

2. The process of claim 1, wherein

(a) said step of performing said collection processing operation uses a collection symbolic job expander means for expanding said collection reference into a list of particular individual collections, to help fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Job Expansion Problem, and thereby improving human productivity by freeing people from the need to specify long lists of individual collections in collection processing requests.

3. The process of claim 1, wherein

(a) said step of performing said collection processing operation uses a collection symbolic job expander means for expanding said collection reference into a list of job triplets each comprised of an individual collection name, a computing platform name, and a processing dependency visit order value, to help fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Platform Assignment Problem, solving the Collection Job Ordering Problem, and thereby improving human productivity by freeing people from the need to specify long lists of individual collections, computing platforms, and visit order values in collection processing requests.

4. The process of claim 1, wherein

(a) said step of performing said collection processing operation uses a collection processing system job dispatcher means for maintaining a proper execution ordering among collection symbolic job requests and lists of expanded job triplets, to help fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Job Scheduling Problem, and thereby improving human productivity by freeing people from the need to manually determine and control proper execution order among job triplets derived from collection reference expressions.

5. The process of claim 1, wherein

(a) said step of performing said collection processing operation uses a collection processing system job dispatcher means for expanding a first-level symbolic task name

into a sequence of second-level task part statements that represent the computational intent of said collection symbolic job request,

thereby helping to solve the Collection Process Execution Problem, and thereby improving human productivity by freeing people from the need to manually determine, manage, and execute particular computer commands to carry out the computational intent of said collection symbolic job request.

6. The process of claim 1, wherein

(a) said step of performing said collection processing operation uses a collection executable process calculation means for dynamically calculating a set of detailed executable commands that can help to fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Process Execution Problem, solving the Platform Dependent Processing Task Problem, and thereby improving human productivity by freeing people from the need to manually calculate detailed sequences of platform-dependent computer commands to carry out complex collection processing operations.

7. The process of claim 1, wherein

(a) said step of performing said collection processing operation uses a collection processing system executable process execution means to execute platform-dependent computing commands to fulfill the computational intent of said collection symbolic job request,

thereby helping to solve the Collection Process Execution Problem, and thereby improving human productivity by freeing people from the need to manually execute sequences of computer commands on multiple platforms to carry out the computational intent of said collection symbolic job request.

8. A programmable Collection Processing System device for performing symbolic task operations on collections, whose actions are directed by software executing a process comprising the following steps:

(a) receiving a collection symbolic job request from a request originator to perform a collection processing operation on a collection reference expression,

(b) performing said collection processing operation on said collection reference using a collection processing system means, and

(c) returning results of said collection processing operation to said request originator,

wherein a collection symbolic job request is comprised of a symbolic task name and a collection reference expression, and wherein a collection is comprised of a collection specifier, including a collection type indicator, and optional collection contents,

thereby solving the Collection Processing System Problem and improving the productivity of people that perform complex computational tasks on large sets of collections.

9. The programmable device of claim 8, wherein

(a) said step of performing said collection processing operation uses a collection symbolic job expander means for expanding said collection reference into a list of particular individual collections, to help fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Job Expansion Problem, and thereby improving human productivity by freeing people from the need to specify long lists of individual collections in collection processing requests.

10. The programmable device of claim 8, wherein

(a) said step of performing said collection processing operation uses a collection symbolic job expander means for expanding said collection reference into a list of job triplets each comprised of an individual collection name, a computing platform name, and a processing dependency visit order value, to help fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Platform Assignment Problem, solving the Collection Job Ordering Problem, and thereby improving human productivity by freeing people from the need to specify long lists of individual collections, computing platforms, and visit order values in collection processing requests.

11. The programmable device of claim 8, wherein

(a) said step of performing said collection processing operation uses a collection processing system job dispatcher means for maintaining a proper execution ordering among collection symbolic job requests and lists of expanded job triplets, to help fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Job Scheduling Problem, and thereby improving human productivity by freeing people from the need to manually determine and control proper execution order among job triplets derived from collection reference expressions.

12. The programmable device of claim 8, wherein

(a) said step of performing said collection processing operation uses a collection processing system job dispatcher means for expanding a first-level symbolic task name into a sequence of second-level task part statements that represent the computational intent of said collection symbolic job request,

thereby helping to solve the Collection Process Execution Problem, and thereby improving human productivity by freeing people from the need to manually determine,

manage, and execute particular computer commands to carry out the computational intent of said collection symbolic job request.

13. The programmable device of claim 8, wherein

(a) said step of performing said collection processing operation uses a collection executable process calculation means for dynamically calculating a set of detailed executable commands that can help to fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Process Execution Problem, solving the Platform Dependent Processing Task Problem, and thereby improving human productivity by freeing people from the need to manually calculate detailed sequences of platform-dependent computer commands to carry out complex collection processing operations.

14. The programmable device of claim 8, wherein

(a) said step of performing said collection processing operation uses a collection processing system executable process execution means to execute platform-dependent computing commands to help fulfill the computational intent of said collection symbolic job request,

thereby helping to solve the Collection Process Execution Problem, and thereby improving human productivity by freeing people from the need to manually execute sequences of computer commands on multiple platforms to carry out the computational intent of said collection symbolic job request.

15. A computer readable memory, encoded with data representing a Collection Processing System computer program, that can be used to direct a computer when used by the computer, comprising:

(a) means for receiving a collection symbolic job request from a request originator to perform a collection processing operation on a collection reference expression,

(b) means for performing said collection processing operation on said collection reference using a collection processing system means, and

(c) means for returning results of said collection processing operation to said request originator,

wherein a collection symbolic job request is comprised of a symbolic task name and a collection reference expression, and wherein a collection is comprised of a collection specifier, including a collection type indicator, and optional collection contents,

thereby solving the Collection Processing System Problem and improving the productivity of people that perform complex computational tasks on large sets of collections.

16. The computer readable memory of claim 15, wherein

(a) said means for performing said collection processing operation uses a collection symbolic job expander means for expanding said collection reference into a list of particular individual collections, to help fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Job Expansion Problem, and thereby improving human productivity by freeing people from the need to specify long lists of individual collections in collection processing requests.

17. The computer readable memory of claim 15, wherein

(a) said means for performing said collection processing operation uses a collection symbolic job expander means for expanding said collection reference into a list of job triplets each comprised of an individual collection name, a computing platform name, and a processing dependency visit order value, to help fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Platform Assignment Problem, solving the Collection Job Ordering Problem, and thereby improving human productivity by freeing people from the need to specify long lists of individual collections, computing platforms, and visit order values in collection processing requests.

18. The computer readable memory of claim 15, wherein

(a) said means for performing said collection processing operation uses a collection processing system job dispatcher means for maintaining a proper execution ordering among collection symbolic job requests and lists of expanded job triplets, to help fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Job Scheduling Problem, and thereby improving human productivity by freeing people from the need to manually determine and control proper execution order among job triplets derived from collection reference expressions.

19. The computer readable memory of claim 15, wherein

(a) said means for performing said collection processing operation uses a collection processing system job dispatcher means for expanding a first-level symbolic task name into a sequence of second-level task part statements that represent the computational intent of said collection symbolic job request,

thereby helping to solve the Collection Process Execution Problem, and thereby improving human productivity by freeing people from the need to manually determine,

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manage, and execute particular computer commands to carry out the computational intent of said collection symbolic job request.

20. The computer readable memory of claim 15, wherein

(a) said means for performing said collection processing operation uses a collection executable process calculation means for dynamically calculating a set of detailed executable commands that can help to fulfill the computational intent of said collection symbolic job request,

thereby solving the Collection Process Execution Problem, solving the Platform Dependent Processing Task Problem, and thereby improving human productivity by freeing people from the need to manually calculate detailed sequences of platform-dependent computer commands to carry out complex collection processing operations.

21. The computer readable memory of claim 15, wherein

(a) said means for performing said collection processing operation uses a collection processing system executable process execution means to execute platform-dependent computing commands to help fulfill the computational intent of said collection symbolic job request,

thereby helping to solve the Collection Process Execution Problem, and thereby improving human productivity by freeing people from the need to manually execute sequences of computer commands on multiple platforms to carry out the computational intent of said collection symbolic job request.